

SEE SHEET 1A FOR THE REST OF 132kV SECTION.

NOTES:

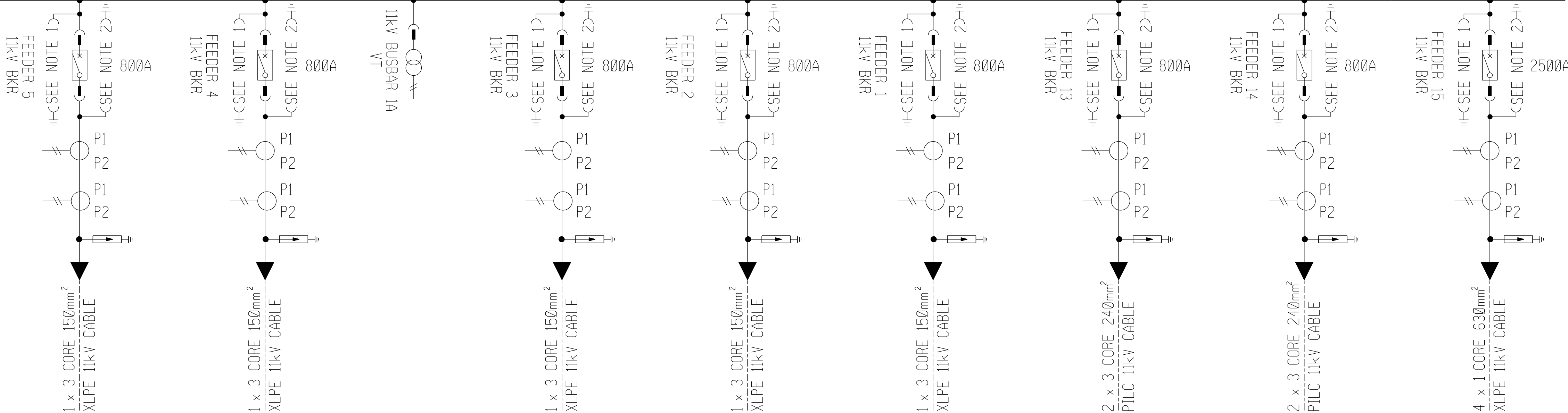
- 11kV BUSBAR EARTHING VIA 11kV BKR AND EARTHING TROLLY COMBINATION.
- CIRCUIT EARTH VIA 11kV BKR ONLY.

VIEW ON FRONT OF BOARD

WHEN VIEWED FROM REAR OF SWITCHBOARD
RED PHASE IS ON THE RIGHT

SEE SHEET 1C & 1D FOR THE REST
OF 11kV BUSBAR.

11kV BUSBAR 1A



IDZ 1-1
11kV FDR 5

IDZ 1B-1
11kV FDR 4

IDZ 1A1-1
11kV FDR 3

IDZ 1A2-1
11kV FDR 2

BCM- 1
11kV FDR 1

IDZ - 1A3-1
11kV FDR 13

IDZ - 1A4-1
11kV FDR 14

IDZ TRANSFER FDR 2
11kV FDR 15

SHEET 1D	11kV BUSBAR 1C SECTION
SHEET 1C	11kV BUSBAR 1B SECTION
SHEET 1B	11kV BUSBAR 1A SECTION
SHEET 1A	132kV SECTION
DRG NO.	REFERENCE DRAWINGS:

5	ADDED 11kV FDR 15 (TRANSFER FDR 2)	VM	BM	LP	10/10/2022	275437420
4	ADDED 11kV FEEDER NAMES	CL	MG	NMW	07/11/2020	
3	CORRECTING CABLE SIZE & TYPE OF CABLE	CL	MG	NMW	07/09/2004	
2	ADDED 11kV FEEDER NAMES	CL	MG	NMW	03/03/2004	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.



AUTH: N. Webber

DATE: 22/04/2003

CHKD: M. Gallant

DATE: 11/04/2003

DRAWN: C. Lottering

DATE: 10/04/2003

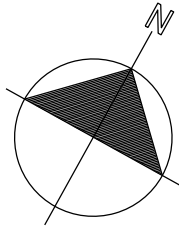
LEACHES BAY SUBSTATION
132/11kV
STATION ELECTRIC DIAGRAM

D-EC-1973

SET SHEET REVISION

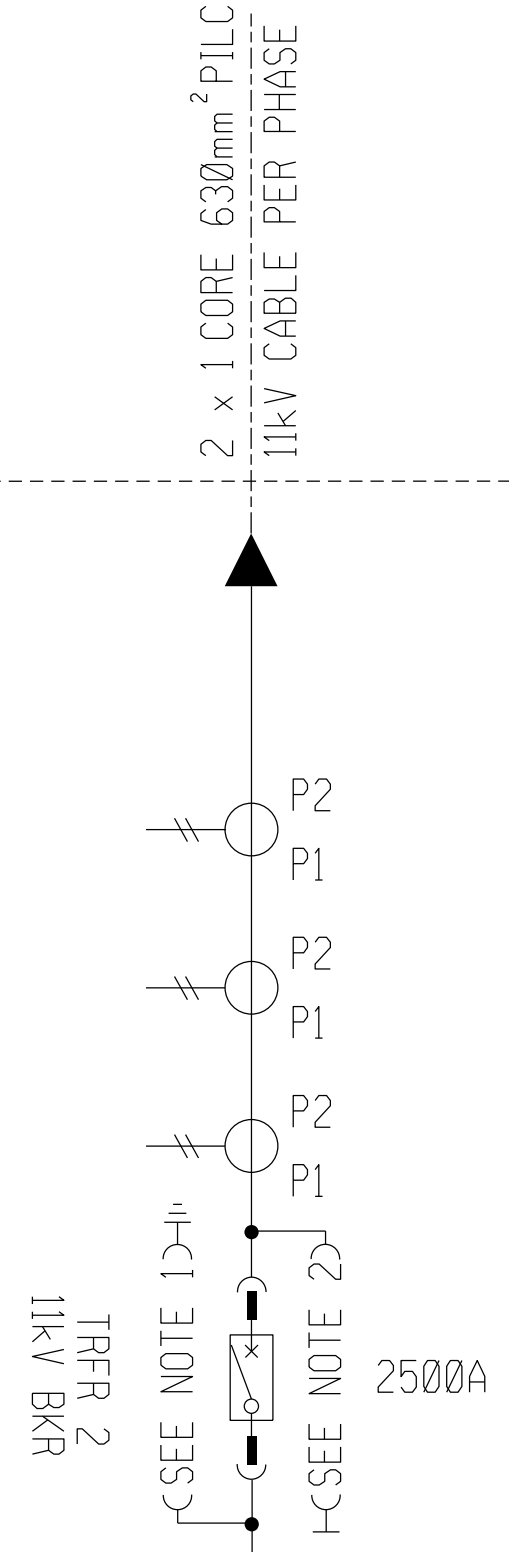
1B 5

THIS DRAWING SUPERCEDES ALL OTHER STATION
ELECTRICAL DIAGRAMS AND SINGLE LINE DIAGRAMS



SCALE: NTS

THIS DRAWING IS THE
PROPERTY OF ESKOM




1. 11kV BUSBAR EARTHING VIA 11kV BKR AND EARTHING TROLLEY COMBINATION.
2. CIRCUIT EARTH VIA 11kV BKR ONLY.

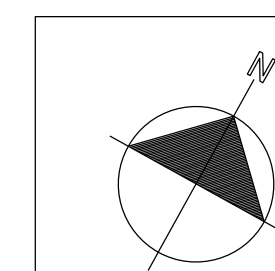


SHEET 10	11kV BUSBAR 1C SECTION
SHEET 1C	11kV BUSBAR 1B SECTION
SHEET 1B	11kV BUSBAR 1A SECTION
SHEET 1A	132kV SECTION
ORG. NO.	REFERENCE DRAWINGS:

4	ADDED 11kv FEEDER NAMES	CL	MG	NMW	07/11/2020	275437420
3	CORRECTING CABLE SIZE & TYPE OF CABLE	CL	MG	NMW	07/09/2004	
2	ADDED 11kv FEEDER NAMES	CL	MG	NMW	03/03/2004	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

	<h1>LEACHES BAY SUBSTATION</h1>									
	<h2>132/11kV</h2>									
	<h3>STATION ELECTRIC DIAGRAM</h3>									
	AUTH: N. Webber		DATE: 22/04/2003							
	CHKD: M. Gallant		DATE: 11/04/2003							
DRAWN: C. Lottering	DATE: 10/04/2003	<table border="1"> <tr> <th>SET</th> <th>SHEET</th> <th>REVISION</th> </tr> <tr> <td></td> <td>1C</td> <td>4</td> </tr> </table>			SET	SHEET	REVISION		1C	4
SET	SHEET	REVISION								
	1C	4								

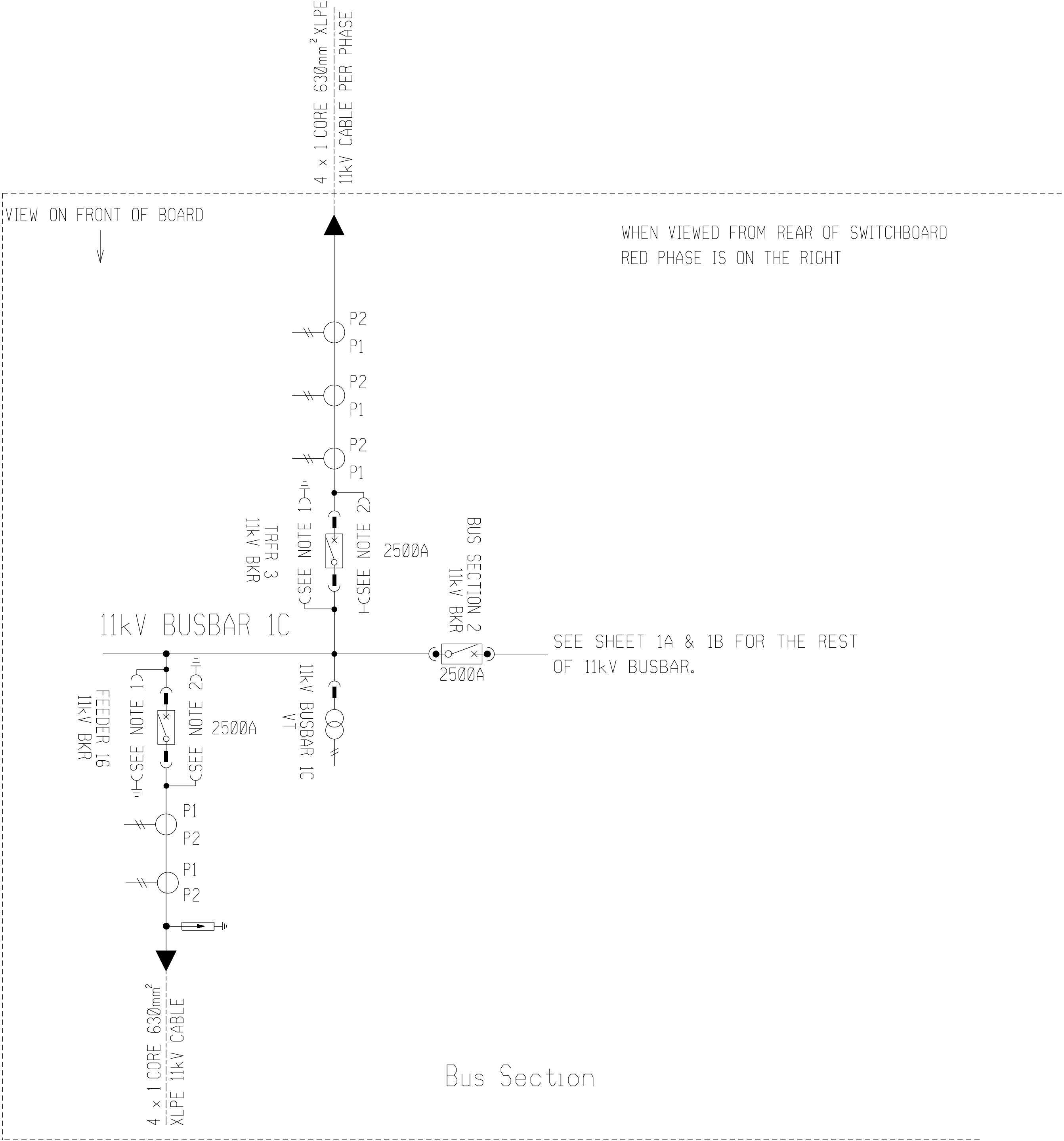
THIS DRAWING SUPERCEDES ALL OTHER STATION
ELECTRICAL DIAGRAMS AND SINGLE LINE DIAGRAMS



SCALE: NTS

THIS DRAWING IS THE
PROPERTY OF ESKOM

SEE SHEET 1A FOR THE REST OF 132kV SECTION.



IDZ TRANSFER FDR 1
11kV FDR 16

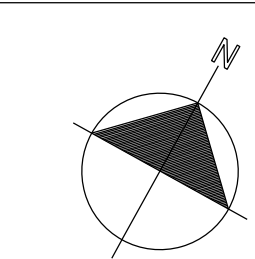
Bus Section

NOTES:

- 1. 11kV BUSBAR EARTHING VIA 11kV BKR AND EARTHING TROLLEY COMBINATION.
- 2. CIRCUIT EARTH VIA 11kV BKR ONLY.

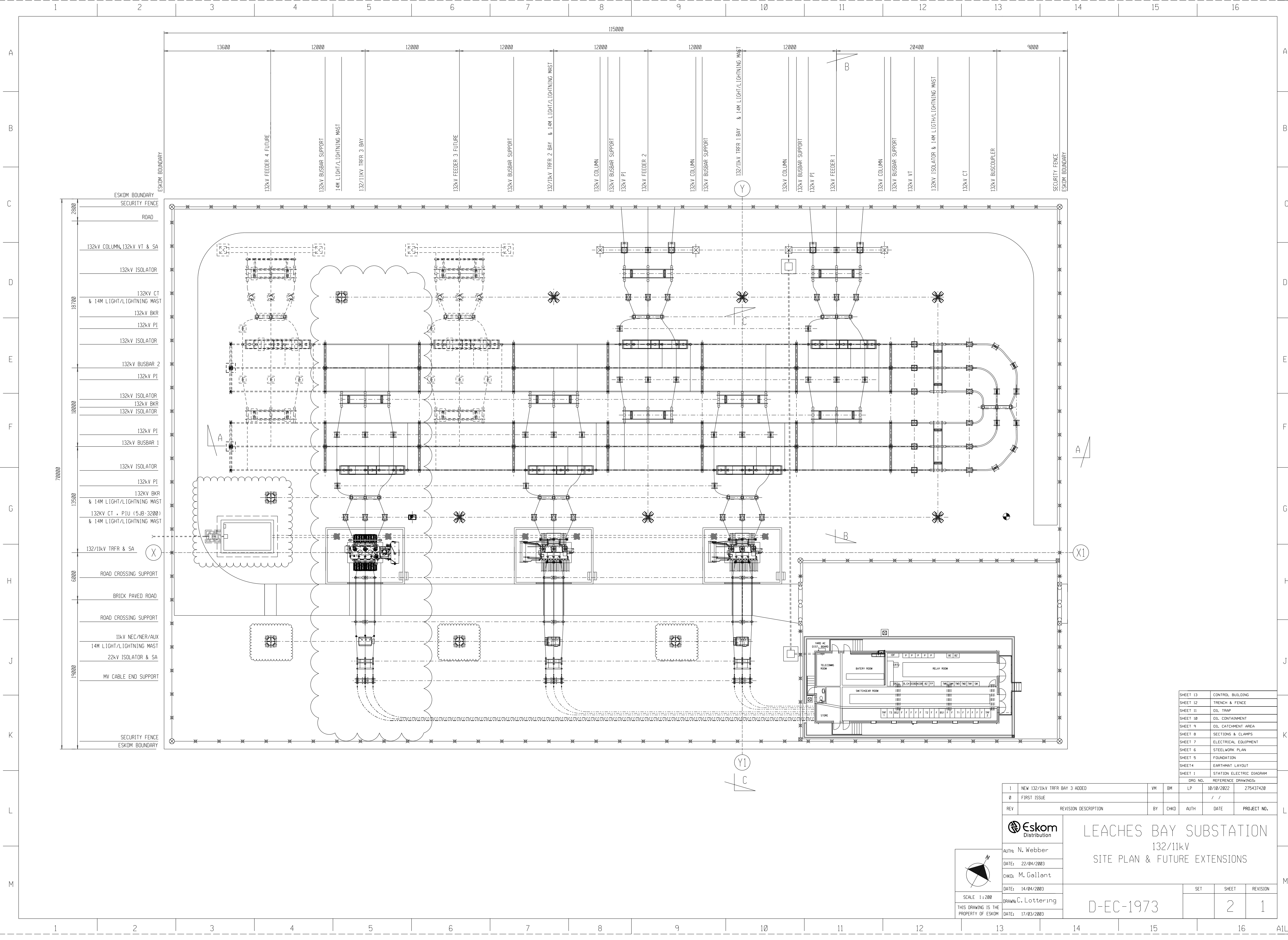
SHEET 1D	11kV BUSBAR 1C SECTION
SHEET 1C	11kV BUSBAR 1B SECTION
SHEET 1B	11kV BUSBAR 1A SECTION
SHEET 1A	132kV SECTION
DRG NO.	REFERENCE DRAWINGS:

0	FIRST ISSUE	VM	BM	LP	10/10/2022	275437420
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
Eskom Distribution		LEACHES BAY SUBSTATION 132/11kV STATION ELECTRIC DIAGRAM				
AUTH: L. Peter						
DATE: 28/10/2022						
CHKD: B. Muanda						
DATE: 10/10/2022						
DRAWN: V. Muamba						
DATE: 10/10/2022						
D-EC-1973		SET	SHEET	REVISION		
			1D	0		



SCALE: NTS
THIS DRAWING IS THE PROPERTY OF ESKOM

THIS DRAWING SUPERCEDES ALL OTHER STATION ELECTRICAL DIAGRAMS AND SINGLE LINE DIAGRAMS



- ESKOM BOUNDARY
- SECURITY FENCE
- ROAD
- 132kV COLUMN, 132kV VT & SA
- 132kV ISOLATOR
- 132kV CT & 14M LIGHT/LIGHTNING MAST
- 132kV BKR
- 132kV PI
- 132kV ISOLATOR
- 132kV BUSBAR 2
- 132kV PI
- 132kV ISOLATOR
- 132kV BKR
- 132kV ISOLATOR
- 132kV PI
- 132kV BUSBAR 1
- 132kV ISOLATOR
- 132kV PI
- 132kV BKR & 14M LIGHT/LIGHTNING MAST
- 132kV CT, PIU (5JB-3200) & 14M LIGHT/LIGHTNING MAST
- 132/11kV TRFR & SA
- ROAD CROSSING SUPPORT
- BRICK PAVED ROAD
- ROAD CROSSING SUPPORT
- 11kV NEC/NER/AUX
- 14M LIGHT/LIGHTNING MAST
- 22kV ISOLATOR & SA
- MV CABLE END SUPPORT
- SECURITY FENCE
- ESKOM BOUNDARY

SHEET 13	CONTROL BUILDING
SHEET 12	TRENCH & FENCE
SHEET 11	OIL TRAP
SHEET 10	OIL CONTAINMENT
SHEET 9	OIL CATCHMENT AREA
SHEET 8	SECTIONS & CLAMPS
SHEET 7	ELECTRICAL EQUIPMENT
SHEET 6	STEELWORK PLAN
SHEET 5	FOUNDATION
SHEET 4	EARTH/MAT LAYOUT
SHEET 1	STATION ELECTRICAL DIAGRAM

REV	DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
1	NEW 132/11kV TRFR BAY 3 ADDED	VM	BM	LP	10/10/2022	275437420
0	FIRST ISSUE				/ /	

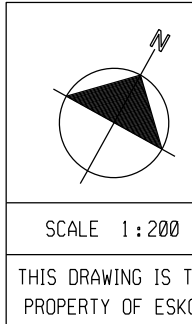


AUTH: N. Webber
DATE: 22/04/2003
CHKD: M. Gallant
DATE: 14/04/2003
DRAWN: C. Lottering
DATE: 17/03/2003

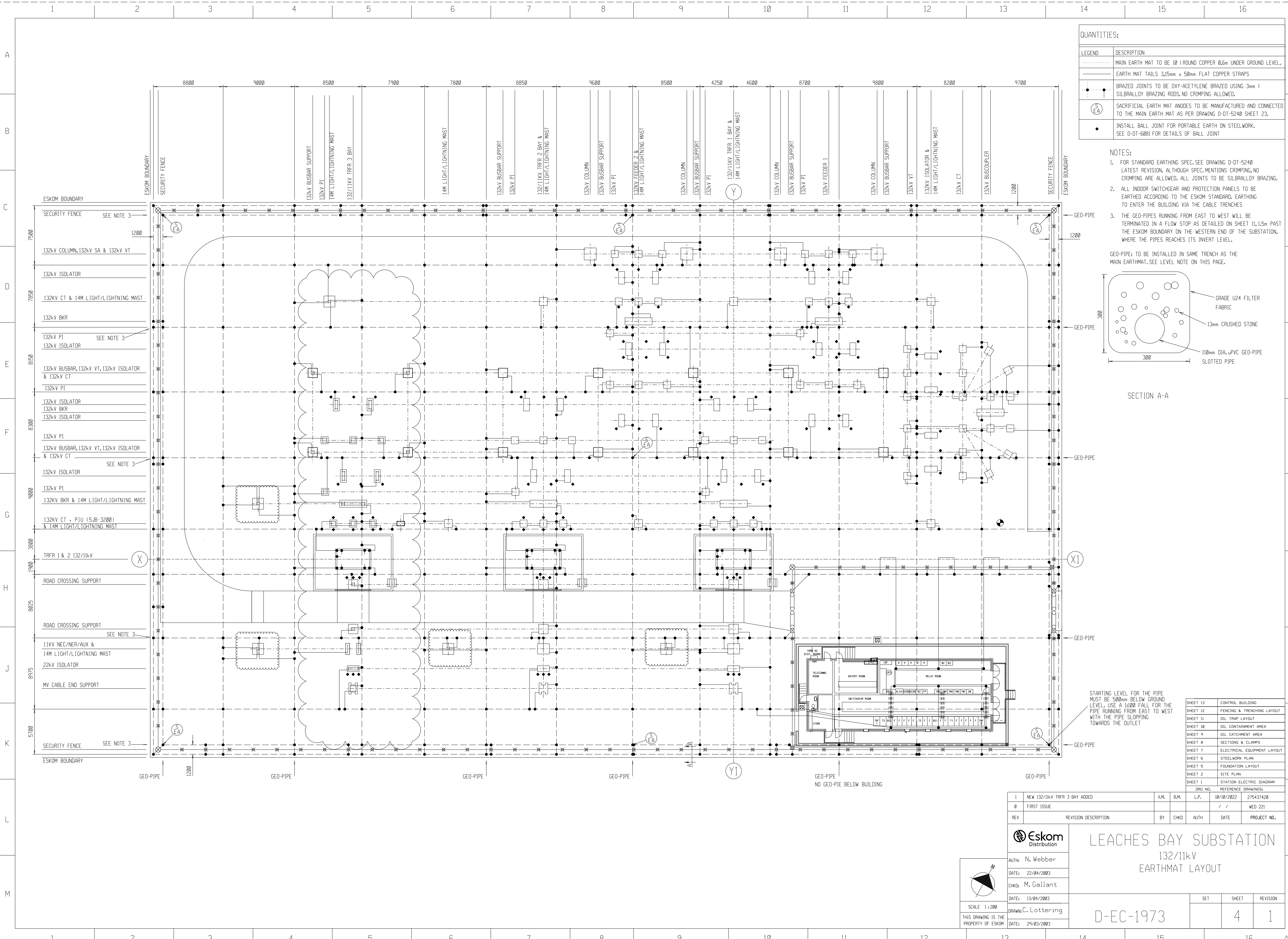
LEACHES BAY SUBSTATION
132/11kV
SITE PLAN & FUTURE EXTENSIONS

D-EC-1973

SET	SHEET	REVISION
	2	1



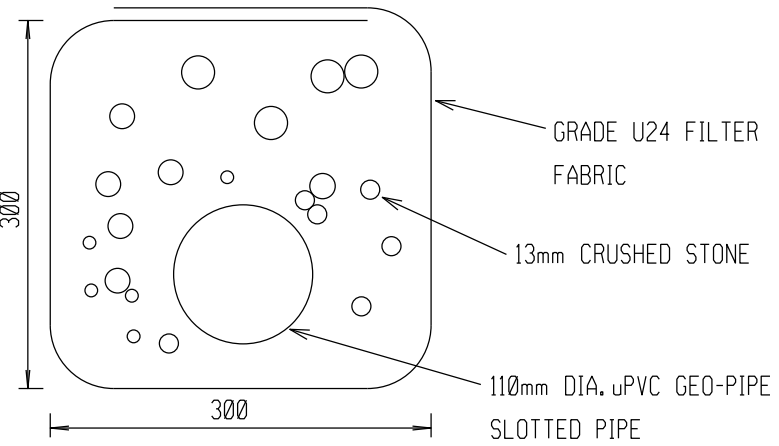
SCALE 1:200
THIS DRAWING IS THE PROPERTY OF ESKOM



QUANTITIES:	
LEGEND	DESCRIPTION
-----	MAIN EARTH MAT TO BE 10 IROUND COPPER 8,6m UNDER GROUND LEVEL.
-----	EARTH MAT TAILS 3,15mm x 50mm FLAT COPPER STRAPS
-----	BRAZED JOINTS TO BE OXY-ACETYLENE BRAZED USING 3mm I SILBRALLOY BRAZING RODS.NO CRIMPING ALLOWED.
S EA	SACRIFICIAL EARTH MAT ANODES TO BE MANUFACTURED AND CONNECTED TO THE MAIN EARTH MAT AS PER DRAWING D-DT-5240 SHEET 23.
◆	INSTALL BALL JOINT FOR PORTABLE EARTH ON STEELWORK. SEE D-DT-6081 FOR DETAILS OF BALL JOINT

- NOTES:
- FOR STANDARD EARTHING SPEC,SEE DRAWING D-DT-5240 LATEST REVISION. ALTHOUGH SPEC.MENTIONS CRIMPING,NO CRIMPING ARE ALLOWED. ALL JOINTS TO BE SILBRALLOY BRAZING.
 - ALL INDOOR SWITCHGEAR AND PROTECTION PANELS TO BE EARTHED ACCORDING TO THE ESKOM STANDARD. EARTHING TO ENTER THE BUILDING VIA THE CABLE TRENCHES
 - THE GEO-PIPES RUNNING FROM EAST TO WEST WILL BE TERMINATED IN A FLOW STOP AS DETAILED ON SHEET 11,1,5m PAST THE ESKOM BOUNDARY ON THE WESTERN END OF THE SUBSTATION, WHERE THE PIPES REACHES ITS INVERT LEVEL.

GEO-PIPE: TO BE INSTALLED IN SAME TRENCH AS THE MAIN EARTHMAT,SEE LEVEL NOTE ON THIS PAGE.



SECTION A-A

STARTING LEVEL FOR THE PIPE MUST BE 500mm BELOW GROUND LEVEL. USE A 1:100 FALL FOR THE PIPE RUNNING FROM EAST TO WEST WITH THE PIPE SLOPPING TOWARDS THE OUTLET

SHEET 13	CONTROL BUILDING
SHEET 12	FENCING & TRENCHING LAYOUT
SHEET 11	OIL TRAP LAYOUT
SHEET 10	OIL CONTAINMENT AREA
SHEET 9	OIL CATCHMENT AREA
SHEET 8	SECTIONS & CLAMPS
SHEET 7	ELECTRICAL EQUIPMENT LAYOUT
SHEET 6	STEELWORK PLAN
SHEET 5	FOUNDATION LAYOUT
SHEET 2	SITE PLAN
SHEET 1	STATION ELECTRIC DIAGRAM

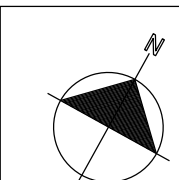
REV		REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
I	NEW 132/11kV TRFR 3 BAY ADDED		V.M.	B.M.		10/10/2022	275437420
0	FIRST ISSUE					/ /	WED 221



AUTH: N. Webber
DATE: 22/04/2003
CHKD: M. Gallant
DATE: 13/04/2003
DRAWN: C. Lottering
DATE: 29/03/2003

LEACHES BAY SUBSTATION

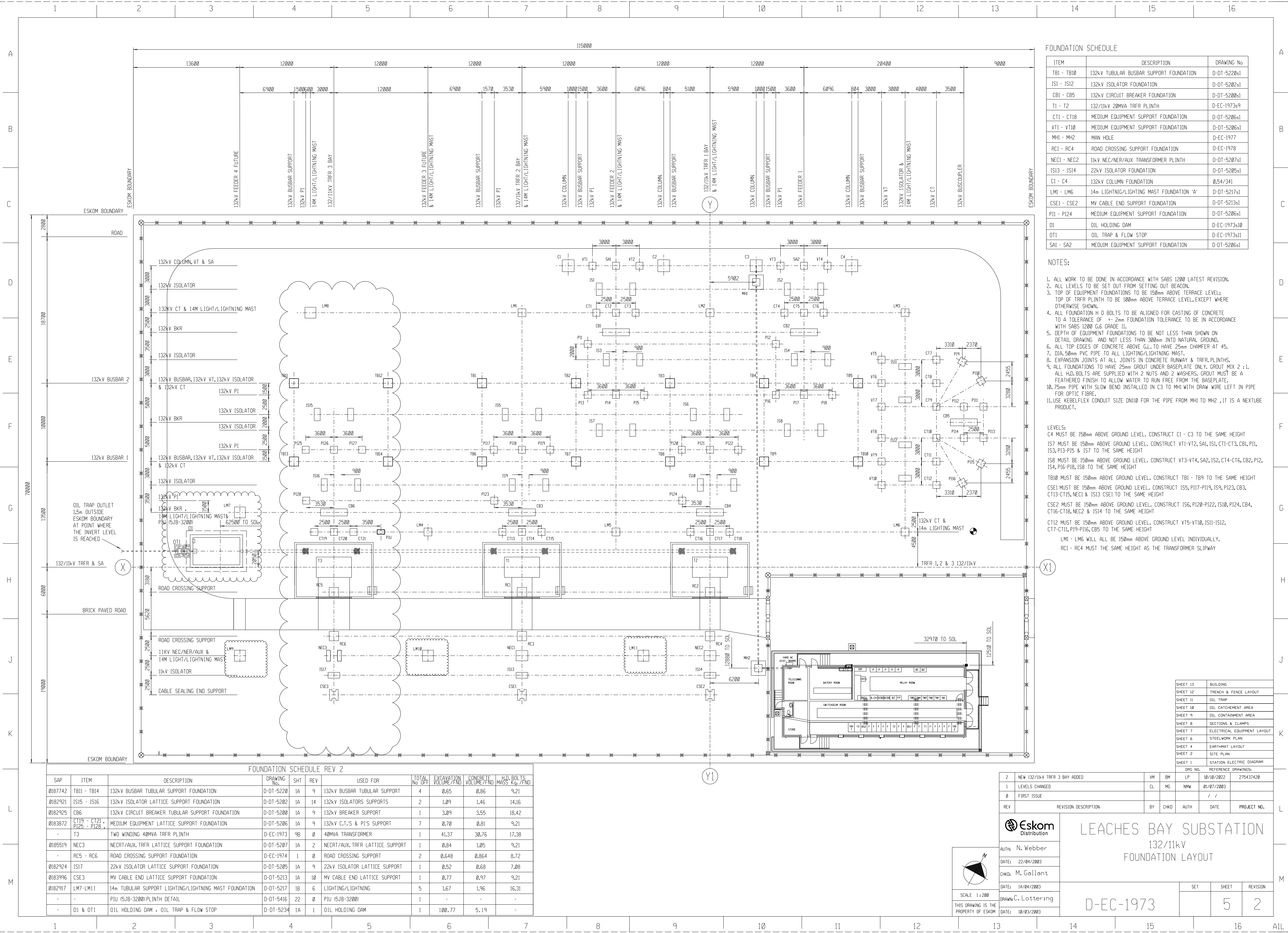
132/11kV
EARTHMAT LAYOUT



SCALE 1:200
THIS DRAWING IS THE PROPERTY OF ESKOM

SET	SHEET	REVISION
	4	1

D-EC-1973




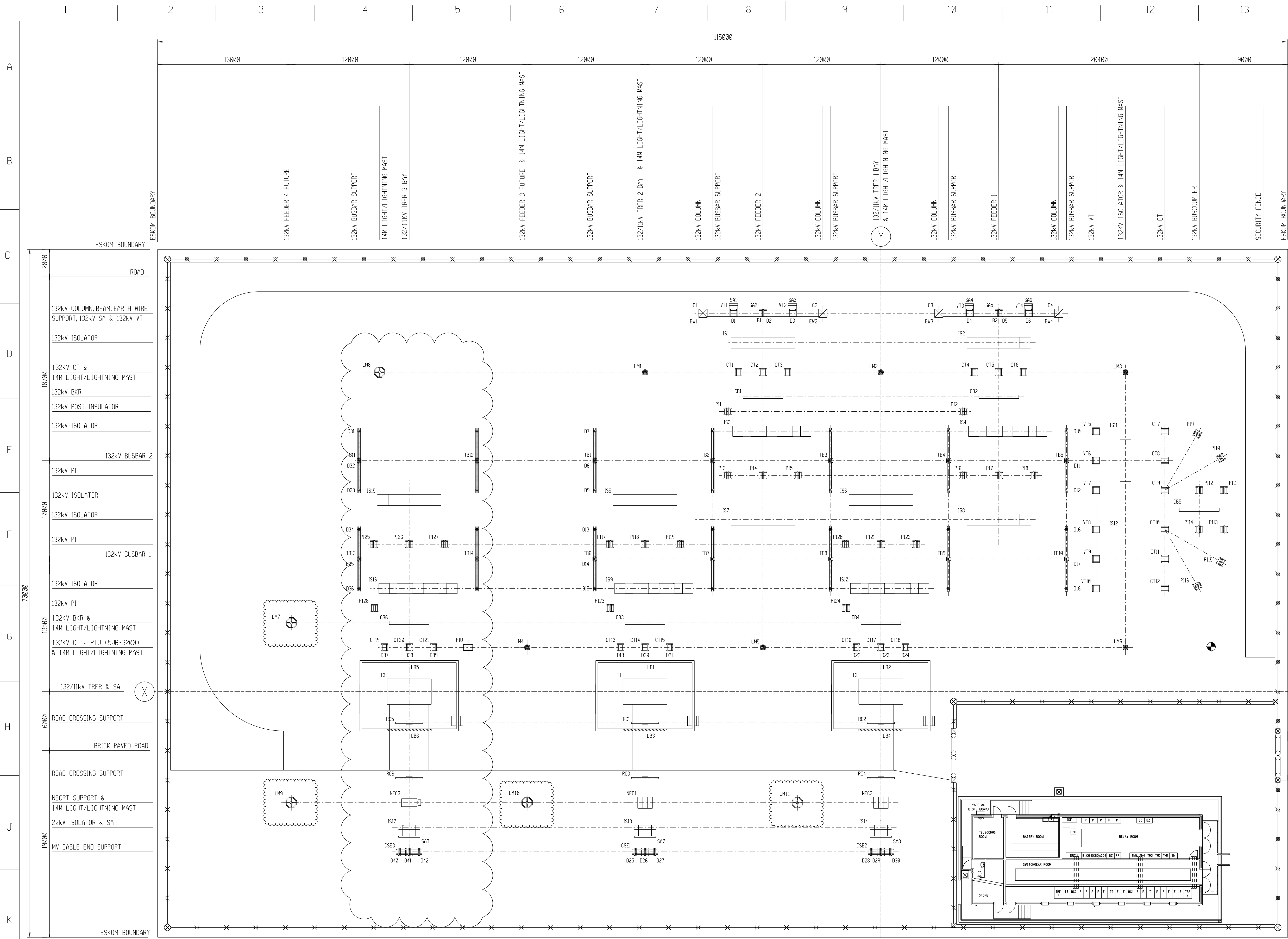
FOUNDATION SCHEDULE		
ITEM	DESCRIPTION	DRAWING No
TBI - TB10	132kV TUBULAR BUSBAR SUPPORT FOUNDATION	D-DT-5220s1
ISI - IS12	132kV ISOLATOR FOUNDATION	D-DT-5202s1
CB1 - CB5	132kV CIRCUIT BREAKER FOUNDATION	D-DT-5200s1
T1 - T2	132/11kV 20MVA TRFR PLINTH	D-EC-1973s9
CT1 - CT18	MEDIUM EQUIPMENT SUPPORT FOUNDATION	D-DT-5206s1
VT1 - VT10	MEDIUM EQUIPMENT SUPPORT FOUNDATION	D-DT-5206s1
MH1 - MH2	MAN HOLE	D-EC-1977
RC1 - RC4	ROAD CROSSING SUPPORT FOUNDATION	D-EC-1978
NEC1 - NEC2	11kV NEC/NER/AUX TRANSFORMER PLINTH	D-DT-5207s1
IS13 - IS14	22kV ISOLATOR FOUNDATION	D-DT-5205s1
C1 - C4	132kV COLUMN FOUNDATION	0.54/341
LM1 - LM6	14m LIGHTNING/LIGHTING MAST FOUNDATION 'A'	D-DT-5217s1
CSE1 - CSE2	MV CABLE END SUPPORT FOUNDATION	D-DT-5213s1
P11 - P124	MEDIUM EQUIPMENT SUPPORT FOUNDATION	D-DT-5206s1
D1	OIL HOLDING DAM	D-EC-1973s10
OT1	OIL TRAP & FLOW STOP	D-EC-1973s11
SA1 - SA2	MEDIUM EQUIPMENT SUPPORT FOUNDATION	D-DT-5206s1

- NOTES:
- ALL WORK TO BE DONE IN ACCORDANCE WITH SABS 1200 LATEST REVISION.
 - ALL LEVELS TO BE SET OUT FROM SETTING OUT BEACON.
 - TOP OF EQUIPMENT FOUNDATIONS TO BE 150mm ABOVE TERRACE LEVEL; TOP OF TRFR PLINTH TO BE 100mm ABOVE TERRACE LEVEL, EXCEPT WHERE OTHERWISE SHOWN.
 - ALL FOUNDATION H D BOLTS TO BE ALIGNED FOR CASTING OF CONCRETE TO A TOLERANCE OF +/- 2mm FOUNDATION TOLERANCE TO BE IN ACCORDANCE WITH SABS 1200 G.6 GRADE II.
 - DEPTH OF EQUIPMENT FOUNDATIONS TO BE NOT LESS THAN SHOWN ON DETAIL DRAWING AND NOT LESS THAN 300mm INTO NATURAL GROUND.
 - ALL TOP EDGES OF CONCRETE ABOVE G.L. TO HAVE 25mm CHAMFER AT 45.
 - DIA. 50mm PVC PIPE TO ALL LIGHTING/LIGHTNING MAST.
 - EXPANSION JOINTS AT ALL JOINTS IN CONCRETE RUNWAY & TRFR PLINTHS.
 - ALL FOUNDATIONS TO HAVE 25mm GROUT UNDER BASEPLATE ONLY. GROUT MIX 2 : 1.
 - ALL H.D. BOLTS ARE SUPPLIED WITH 2 NUTS AND 2 WASHERS. GROUT MUST BE A FEATHERED FINISH TO ALLOW WATER TO RUN FREE FROM THE BASEPLATE.
 - 75mm PIPE WITH SLOW BEND INSTALLED IN C3 TO MH1 WITH DRAW WIRE LEFT IN PIPE FOR OPTIC FIBRE.
 - USE KEBELFLEX CONDUIT SIZE DN110 FOR THE PIPE FROM MH1 TO MH2, IT IS A NEXTUBE PRODUCT.

- LEVELS:
- C4 MUST BE 150mm ABOVE GROUND LEVEL. CONSTRUCT C1 - C3 TO THE SAME HEIGHT
- IS7 MUST BE 150mm ABOVE GROUND LEVEL. CONSTRUCT VT1-VT2, SA1, ISI, CT1-CT3, CB1, P11, IS3, P13-P15 & IS7 TO THE SAME HEIGHT
- IS8 MUST BE 150mm ABOVE GROUND LEVEL. CONSTRUCT VT3-VT4, SA2, IS2, CT4-CT6, CB2, P12, IS4, P16-P18, IS8 TO THE SAME HEIGHT
- TB10 MUST BE 150mm ABOVE GROUND LEVEL. CONSTRUCT TBI - TB9 TO THE SAME HEIGHT
- CSE1 MUST BE 150mm ABOVE GROUND LEVEL. CONSTRUCT IS5, P17-P19, IS9, P123, CB3, CT13-CT15, NEC1 & IS13 CSE1 TO THE SAME HEIGHT
- CSE2 MUST BE 150mm ABOVE GROUND LEVEL. CONSTRUCT IS6, P120-P122, IS10, P124, CB4, CT16-CT18, NEC2 & IS14 TO THE SAME HEIGHT
- CT12 MUST BE 150mm ABOVE GROUND LEVEL. CONSTRUCT VT5-VT10, IS11-IS12, CT7-CT11, P19-P116, CB5 TO THE SAME HEIGHT
- LM1 - LM6 WILL ALL BE 150mm ABOVE GROUND LEVEL INDIVIDUALLY.
- RC1 - RC4 MUST THE SAME HEIGHT AS THE TRANSFORMER SLIPWAY

FOUNDATION SCHEDULE REV 2								
SAP	ITEM	DESCRIPTION	DRAWING No.	SHT	REV	USED FOR	TOTAL No OFF	EXCAVATION VOLUME/FND
0187742	TBI1 - TB14	132kV BUSBAR TUBULAR SUPPORT FOUNDATION	D-DT-5220	1A	9	132kV BUSBAR TUBULAR SUPPORT	4	0.65
0182921	IS15 - IS16	132kV ISOLATOR LATTICE SUPPORT FOUNDATION	D-DT-5202	1A	14	132kV ISOLATORS SUPPORTS	2	1.09
0182925	CB6	132kV CIRCUIT BREAKER TUBULAR SUPPORT FOUNDATION	D-DT-5200	1A	9	132kV BREAKER SUPPORT	1	3.09
0183872	CT19 - CT21, P125 - P128	MEDIUM EQUIPMENT LATTICE SUPPORT FOUNDATION	D-DT-5206	1A	9	132kV C.T.'S & P1'S SUPPORT	7	0.70
-	T3	TWO WINDING 40MVA TRFR PLINTH	D-EC-1973	9B	0	40MVA TRANSFORMER	1	41.37
0185519	NEC3	NECR/AUX. TRFR LATTICE SUPPORT FOUNDATION	D-DT-5207	1A	2	NECR/AUX. TRFR LATTICE SUPPORT	1	0.84
-	RC5 - RC6	ROAD CROSSING SUPPORT FOUNDATION	D-EC-1974	1	0	ROAD CROSSING SUPPORT	2	0.648
0182924	IS17	22kV ISOLATOR LATTICE SUPPORT FOUNDATION	D-DT-5205	1A	9	22kV ISOLATOR LATTICE SUPPORT	1	0.52
0183996	CSE3	MV CABLE END LATTICE SUPPORT FOUNDATION	D-DT-5213	1A	10	MV CABLE END LATTICE SUPPORT	1	0.77
0182197	LM7-LM11	14m TUBULAR SUPPORT LIGHTING/LIGHTNING MAST FOUNDATION	D-DT-5217	1B	6	LIGHTING/LIGHTNING	5	1.67
-	-	PIU (5JB-3200) PLINTH DETAIL	D-DT-5416	22	0	PIU (5JB-3200)	1	-
-	D1 & OT1	OIL HOLDING DAM + OIL TRAP & FLOW STOP	D-DT-5234	1A	1	OIL HOLDING DAM	1	100.77

2	NEW 132/11kV TRFR 3 BAY ADDED	VM	BM	LP	10/10/2022	275437420
1	LEVELS CHANGED	CL	MG	NMW	01/07/2003	
0	FIRST ISSUE				/ /	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
		<div>LEACHES BAY SUBSTATION</div> <div>132/11kV</div> <div>FOUNDATION LAYOUT</div>				
AUTH:	N. Webber					
DATE:	22/04/2003					
CHKD:	M. Gallant					
DATE:	14/04/2003					
DRAWN:	C. Lottering	D-EC-1973		SET	SHEET	REVISION
DATE:	10/03/2003				5	2

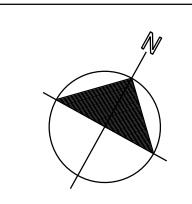


STEELWORK SCHEDULE		
ITEM	DESCRIPTION	DRAWING No
TB1 - TB10	132kV TUBULAR BUSBAR SUPPORT	D-DT-5220s2
IS1 - IS2	132kV ISOLATOR	D-DT-5202s2
IS5 - IS8		
IS11 - IS12		
IS3 - IS4	132kV ISOLATOR	0.54/4183
IS9 - IS10		
CB1 - CB5		
CT1 - CT18	2.5m MEDIUM EQUIPMENT SUPPORT	D-DT-5206s3
CT1 - CT18	SUPPORT CAP	D-DT-5206s5
VT1 - VT10	2.5m MEDIUM EQUIPMENT SUPPORT	D-DT-5206s3
VT1 - VT10	SUPPORT CAP	D-DT-5206s5
RC1 - RC4	ROAD CROSSING SUPPORT	D-EC-1974
IS13 - IS14	22kV ISOLATOR SUPPORT	D-DT-5205s2
C1 - C4	132kV COLUMN STEELWORK	0.54/336
B1 - B2	132kV BEAM MK. 132/40/1 STEELWORK	0.54/336
EW1 - EW4	132kV COLUMN EARTH WIRE SUPPORT	0.54/336
LM1 - LM6	14m LIGHTNING/LIGHTNING MAST	D-DT-5217s3
CSE1 - CSE2	MV CABLE END SUPPORT	D-DT-5213s3
PI1 - PI8	2.5m MEDIUM EQUIPMENT SUPPORT	D-DT-5206s3
PI1 - PI8	SUPPORT CAP	D-DT-5206s5
PI13 - PI15	2.5m MEDIUM EQUIPMENT SUPPORT	D-DT-5206s3
PI13 - PI15	SUPPORT CAP	D-DT-5206s5
PI17 - PI24	2.5m MEDIUM EQUIPMENT SUPPORT	D-DT-5206s3
PI17 - PI24	SUPPORT CAP	D-DT-5206s5
PI16	3m MEDIUM EQUIPMENT SUPPORT	D-DT-5206s4
PI16	SUPPORT CAP	D-DT-5206s5
PI9 - PI12	3.5m MEDIUM EQUIPMENT SUPPORT	0.54/304
PI9 - PI12	SUPPORT CAP	D-DT-5206s5
SA1, 3, 4 & 6	132kV MEDIUM EQUIPMENT SA BRACKET	D-EC-1976
SA2 & SA5	2.5m MEDIUM EQUIPMENT SUPPORT	D-DT-5206s3
SA2 & SA5	SUPPORT CAP	D-DT-5206s5
SA7 & SA8	11/22kV ISOLATOR SA BRACKET	D-DT-5219s1
D1 - D30	PHASING DISC BRACKET	D-EC-1938
LB1-LB4	TRANSFORMER LABEL T BRACKET	D-EC-1763
NEC1-NEC2	NEC SUPPORT STEELWORK	D-DC-0102-1


NOTES:
1. STRUCTURE SHALL BE ERECTED, ALIGNED, SQUARED, PLUMBED AND LEVELLED TO AN ACCURACY SPECIFIED IN SABS 1200 H 6.2.2.0.5 - CLASS II.

STEELWORK SCHEDULE REV 1						
SAP	ITEM	DESCRIPTION	DRAWING No.	SHT	REV	USED FOR
0187740	TB11 - TB14	132kV BUSBAR TUBULAR SUPPORT	D-DT-5220	2	11	132kV BUSBAR
0186033	IS15	132kV ISOLATOR SUPPORT	D-DT-5202	2A	17	132kV ISOLATOR
0528427	IS16	132kV ISOLATOR IN-LINE SUPPORT	D-DT-5202	2I	2	132kV ISOLATOR IN-LINE
0182927	CB6	132kV BREAKER SUPPORT	D-DT-5200	2A	13	132kV BREAKER
0182752	CT19 - CT21	MEDIUM EQUIPMENT SUPPORTS 2.5m	D-DT-5206	2C	9	132kV C.T.'S & P.I.'S
0182753	CT19 - CT21	MEDIUM EQUIPMENT SUPPORT CAPS M1	D-DT-5206	2H	7	132kV C.T.'S & P.I.'S
0185520	NEC3	NEC/T/AUX. TRFR 6.6-22kV LATTICE SUPPORT	D-DT-5207	2A	12	NEC/T/AUX. TRFR 6.6-22kV
	RC5 - RC6	ROAD CROSSING SUPPORT	D-EC-1974	2	0	ROAD CROSSING TUBULAR BUSBAR
0182592	IS17	22kV ISOLATOR LATTICE SUPPORT	D-DT-5205	2A	9	22kV ISOLATOR
0182751	SA9	11/22kV SURGE ARRESTOR BRACKET	D-DT-5219	1	3	S.A.'S MOUNTED ON ISOLATOR SUPPORT
0528457	CSE3	MV CABLE END SUPPORT	D-DT-5213	20	1	MV CABLE END SUPPORT
0182913	LM7-LM11	14M LIGHTING/LIGHTNING MAST SUPPORTS	D-DT-5217	2B	11	14M LIGHTING/LIGHTNING MASTS
	PIU	YMK STEELWORK ASSEMBLY	D-DT-5416	2	0	PIU (5JB-3200)

STEELWORK SCHEDULE REV 1 - CONTINUATION						
SAP	ITEM	DESCRIPTION	DRAWING No.	SHT	REV	USED FOR
0172425	D31 - D42	PHASE LABEL MOUNTING BRACKETS	D-DT-6114	2	5	PHASING DISC BRACKET

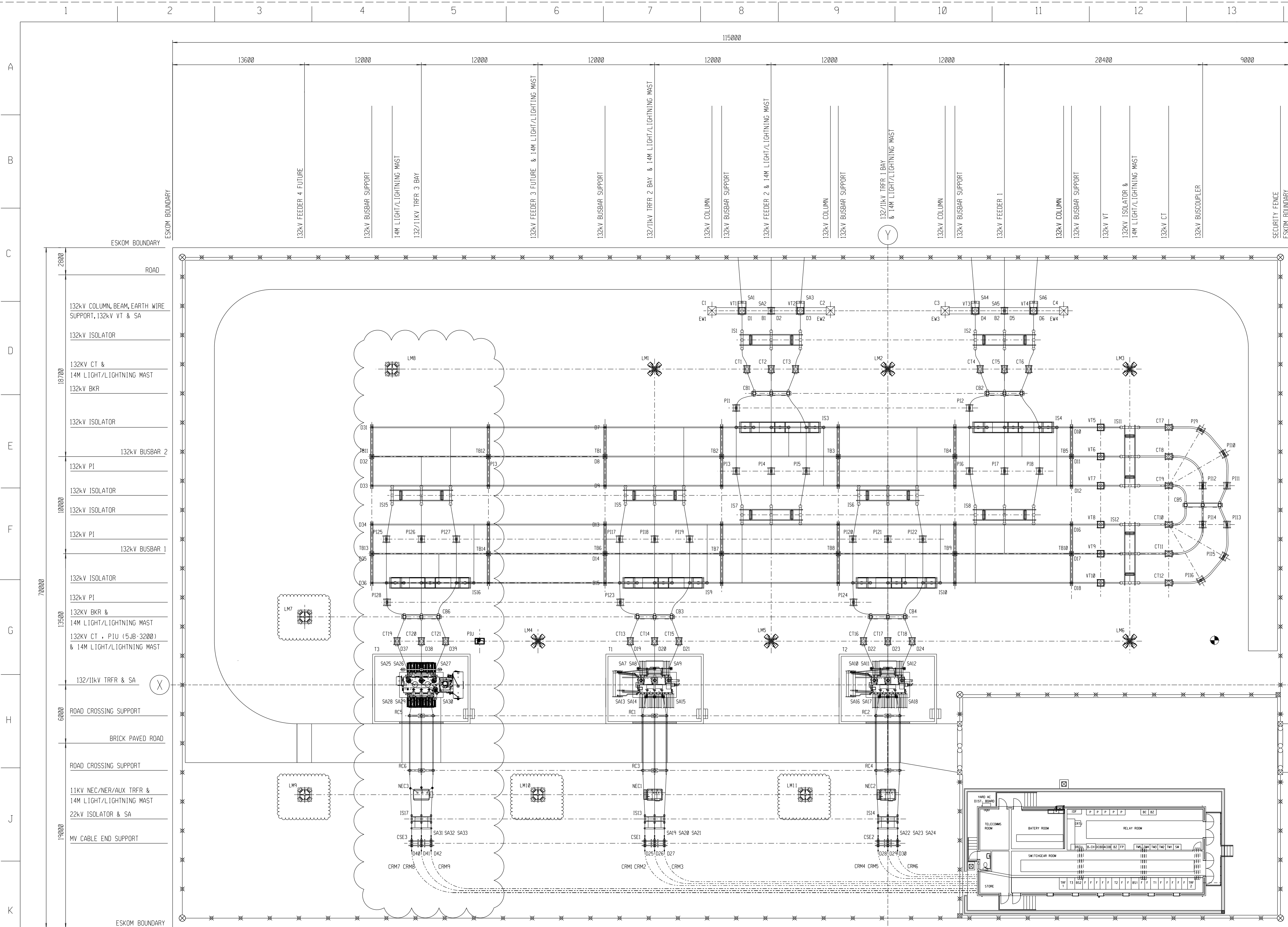


SCALE 1:200
THIS DRAWING IS THE PROPERTY OF ESKOM

1	NEW 132/11kV TRFR 3 BAY ADDED			VM	BM	LP	10/10/2022	275437420
0	FIRST ISSUE						/ /	WED221
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	PROJECT NO.
<div><div></div><div><div>LEACHES BAY SUBSTATION</div><div>132/11kV</div><div>STEELWORK PLAN</div></div></div>								
AUTH: N. Webber								
DATE: 22/04/2003								
CHKD: M. Gallant								
DATE: 12/04/2003								
DRAWN: C. Lottering								
DATE: 10/03/2003								
D-EC-1973				SET		SHEET		REVISION
						6		1

LEACHES BAY SUBSTATION
132/11kV
STEELWORK PLAN

D-EC-1973



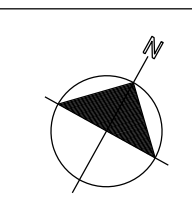
EQUIPMENT SCHEDULE		
ITEM	DESCRIPTION	DRAWING No
TBI - TBI0	132kV POST INSULATOR	D-DT-6230
IS1 - IS2	132kV ISOLATOR	D-DC-0141-1
IS5 - IS8		
IS11 - IS12		
IS3 - IS4	132kV ISOLATOR (IN-LINE ISOLATOR)	0.54/4194
IS9 - IS10		
CB1 - CB5	132kV CIRCUIT BREAKER	D-DC-0130-1
CT1 - CT18	132kV CURRENT TRANSFORMER	D-DC-0123-1
T1 - T2	132/11kV 20MVA TRFR	10/5393 B
VT1 - VT10	132kV VOLTAGE TRANSFORMER	D-DC-0115-1
NEC1 - NEC2	22kV NECRT	D-DC-0102-1
RC1 - RC4	132kV POST INSULATOR	D-DT-6230
IS13 - IS14	22kV ISOLATOR	D-DC-0152-1
LM1 - LM6	400W HPS LUMINAIRE	D-DT-6104/5
CSE1 - CSE2	66kV POST INSULATOR	D-DT-6232
PI1 - PI24	132kV POST INSULATOR	D-DT-6230
SA1 - SA12	132kV SURGE ARRESTOR	D-DC-0114-1
SA13 - SA24	11kV SURGE ARRESTOR	D-DC-0108-1
D1 - D30	PHASING DISC	-
-	CABLE CLEATS	D-DT-8019-1&2
CRM1-CRM6	CABLE ROUTE MARKER	D-DT-8012
-	CABLE TRENCH DETAIL	D-DT-0854-4
-	CABLE TERMINATION	RAYCHEM
-	DANGER TAPE	D-DT-8013

EQUIPMENT SCHEDULE REV 1					
ITEM	DESCRIPTION	QTY	DRAWING No.	REV	RATINGS
TBI1 - TBI4 , P125 - P128 , RC5 - RC6	132kV POST INSULATORS	10	D-DT-6230	7	132kV INSUL STN POST C4-550
IS15	132kV ISOLATOR	1	D-DT-6302	5	25000A 40kA H/O OES 110VDC
IS16	132kV ISOLATOR IN-LINE	1	D-DT-6302	5	25000A 40kA INLH/O OES 110VDC
CB6	132kV BREAKER	1	D-DT-6250	14	LT 132kV 3150A 40kA 3 110VDC
CT19 - CT21	132kV CURRENT TRANSFORMER	3	D-DT-6190	11	132kV 2500A 40kA 2P2M2B1600 3I
SA25 - SA27	132kV SURGE ARRESTOR	3	D-DT-6210	10	S/CL MCOV 84kV 3I
T3	132/11kV 40MVA TRANSFORMER	1	D-DT-6120	8	40MVA 132/11kV OLTC (SD) YndI 3I
SA28 - SA33	11kV SURGE ARRESTOR	6	D-DT-6216	10	S/CL MCOV 12kV 3I
NEC3	11kV NEC/NER/AUX TRF	1	D-DT-6140	10	NEC/NER/AUX TRF 11kV 360A 3I
IS17	22kV ISOLATOR	1	D-DT-6305	3	25000A 31.5kA H/O OES 110VDC
LM1-LM11	LAMP FLOODLIGHT	44	D-DT-6009	3	ALUMINIUM 60W 7200LM FLT
CRM7 - CRM9	MARKER CABLE ROUTE CONCRETE	3	D-DT-8012	3	-
CSE3	66kV POST INSULATORS	6	D-DT-6232	7	66kV INSUL STN POST C4-325

EQUIPMENT SCHEDULE REV 1 - CONTINUATION					
ITEM	DESCRIPTION	QTY	DRAWING No.	REV	RATINGS
PIU	PIU (5JB-3200)	1	D-DT-5416	0	-

SHEET 13	CONTROL BUILDING
SHEET 12	TRENCH & FENCE LAYOUT
SHEET 11	OIL TRAP DETAILS
SHEET 10	OIL CONTAINMENT AREA
SHEET 9	OIL CATCHMENT AREA
SHEET 8	SECTIONS & CLAMPS
SHEET 6	STEELWORK PLAN
SHEET 5	FOUNDATION LAYOUT
SHEET 4	EARTHMAT LAYOUT
SHEET 2	SITE PLAN
SHEET 1	STATION ELECTRIC DIAGRAM

REV		REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	PROJECT NO.	
1	NEW 132/11kV TRFR 3 BAY ADDED	VM	BM				18/10/2022	275437420	
0	FIRST ISSUE						/ /	WED221	



SCALE 1:200
THIS DRAWING IS THE PROPERTY OF ESKOM

Eskom
Distribution
AUTH: N. Webber
DATE: 22/04/2003
CHKD: M. Gollant
DATE: 12/04/2003
DRAWN: C. Lottering
DATE: 13/03/2003

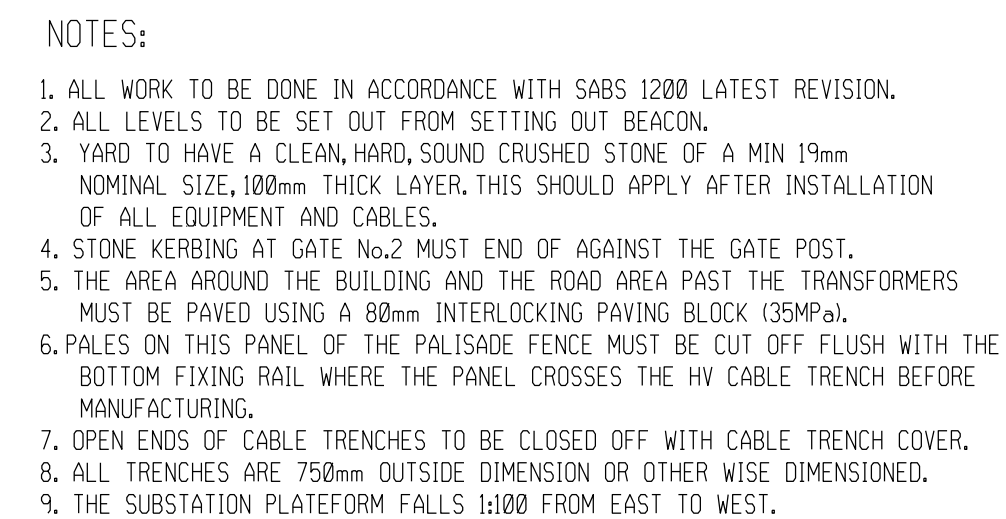
LEACHES BAY SUBSTATION







132/11kV

ELECTRICAL EQUIPMENT LAYOUT

D-EC-1973

SET	SHEET	REVISION
	7	1




LEGEND	
SYMBOL	DESCRIPTION
	FENCE CORNER POST
	FENCE 5m GATE HINGE POST
	FENCE POST INTERMEDIATE
	FENCE 1m GATE HINGE POST
	FENCE GATE SUPPORT POST
	CABLE TRENCH BRACE D-EC-1977

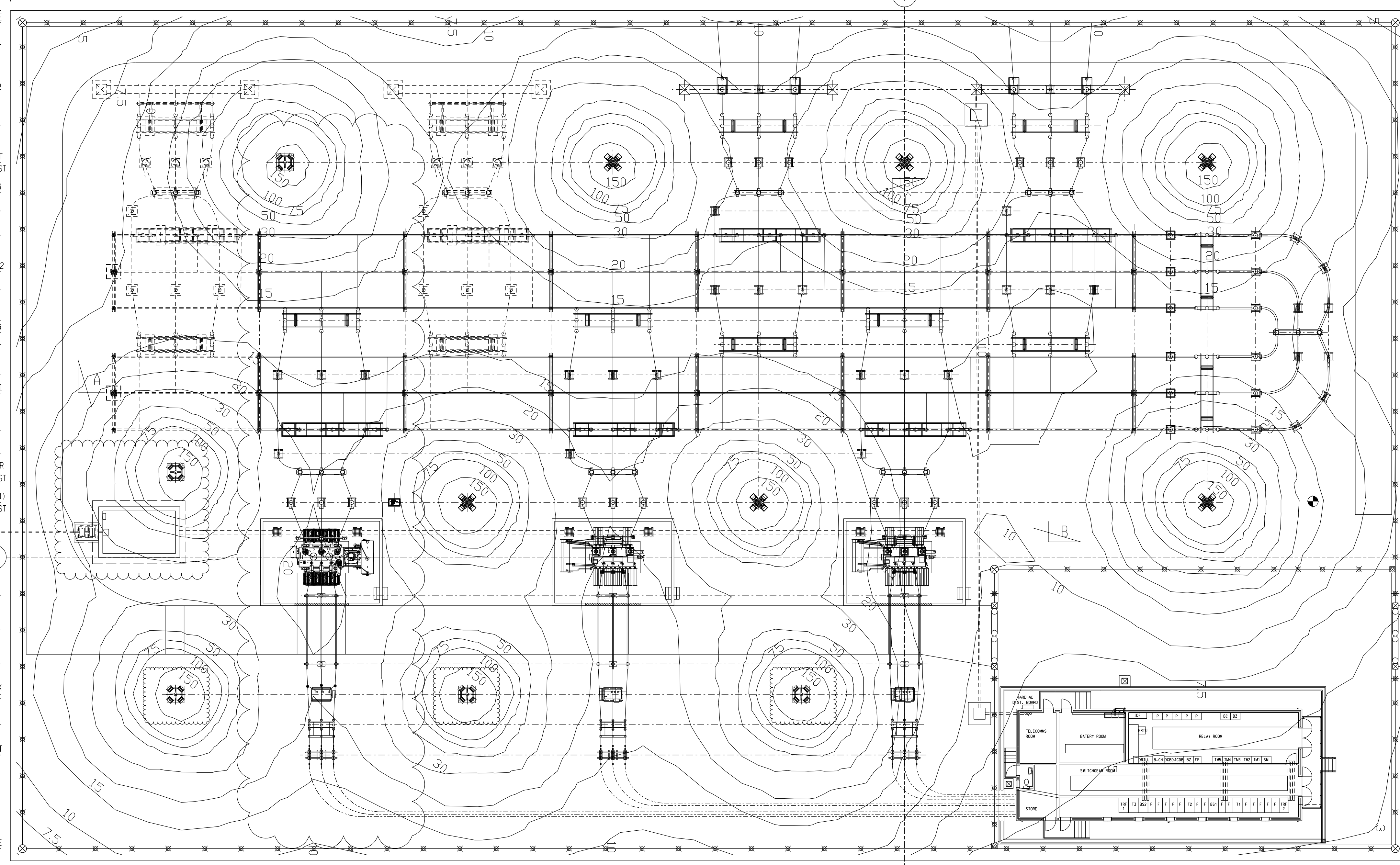
DESCRIPTOIN	DRAWING NO.
PALISADE FENCE	D-EC-5237 s1 & 2
PALISADE FENCE LABEL BRACKET	D-EC-1949
CIVIL STANDARDS	D-EC-1977
STEEL BRACE FOR TRENCHES	D-EC-1979 SHEET
TRENCH COVER	D-EC-1735 SHEET 1 & 2

SHEET 13	CONTROL BUILDING
SHEET 12	TRENCH & FENCE LAYOUT
SHEET 11	OIL TRAP DETAILS
SHEET 10	OIL CONTAINMENT AREA
SHEET 9	OIL CATCHMENT AREA
SHEET 8	SECTIONS & CLAMPS
SHEET 7	ELECTRICAL EQUIPMENT LAYOUT
SHEET 6	STEELWORK PLAN
SHEET 5	FOUNDATION LAYOUT
SHEET 4	EARTHMAT LAYOUT
SHEET 2	SITE PLAN
SHEET 1	STATION ELECTRIC DIAGRAM

2	NEW 132/11kV TRFR 3 BAY ADDED	VM	BM	LP	10/10/2022	275437420
1	CONTROL BUILDING TRENCHES ADDED	CL	MG	NMW	01/07/2003	
0	FIRST ISSUE				/ /	WED221
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

	<h1 style="text-align: center;">LEACHES BAY SUBSTATION</h1> <h2 style="text-align: center;">132/11kV TRENCH & FENCE LAYOUT</h2>					
	AUTH: N. Webber					
	DATE: 22/04/2003					
	CHKD: M. Gallant					
	DATE: 14/04/2003					
	DRAWN: C. Lottering					
DATE: 10/03/2003	D-EC-1973			SET	SHEET	REVISION
					12	2

2600	ESKOM BOUNDARY
	SECURITY FENCE
	ROAD
	132kV COLUMN, 132kV VT & SA
	132kV ISOLATOR
18700	132kV CT & 14M LIGHT/LIGHTNING MAST
	132kV BKR
	132kV PI
	132kV ISOLATOR
	132kV BUSBAR 2
	132kV PI
10000	132kV ISOLATOR
	132kV BKR
	132kV ISOLATOR
	132kV PI
	132kV BUSBAR 1
	132kV ISOLATOR
	132kV PI
13500	132kV BKR & 14M LIGHT/LIGHTNING MAST
	132kV CT, PIU (5JB-3200) & 14M LIGHT/LIGHTNING MAST
	132/11kV TRFR & SA
6000	ROAD CROSSING SUPPORT
	BRICK PAVED ROAD
	ROAD CROSSING SUPPORT
	11kV NEC/NER/AUX
	14M LIGHT/LIGHTNING MAST
	22kV ISOLATOR & SA
19000	MV CABLE END SUPPORT
	SECURITY FENCE
	ESKOM BOUNDARY



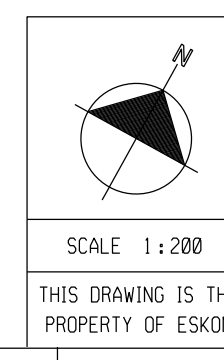
LUX LEVELS SCHEDULE REV 1					
SYMBOL	SUPPLIER	QTY	ARTICLE NUMBER	ARTICLE NAME	EQUIPMENT
	BEKER	44	LEDNOVA	LEDNOVA MINI	1X 54W

NOTES:

1. AREA OF LIGHT IS CALCULATED ON USING A FLOODLIGHT 20LED 54W 7665LM 138LM/W AT A 45DEG ANGLE. CHANGING ANY ONE OF THESE PARAMETERS WILL INFLUENCE THE LUX RESULT.

2. LIGHTING CHANGES TO BE DONE IN ACCORDANCE WITH SANS 10389-1:2003 & SANS 10389-2:2003

3. A MAINTENANCE FACTOR OF 0.8 WAS USED IN THE DESIGN



0

FIRST ISSUE / NEW 132/11kV TRFR BAY 3 ADDED

VM

BM

LP

10/10/2022

275437420

REV

REVISION DESCRIPTION

BY

CHKD

AUTH

DATE

PROJECT NO.

AUTH:

DATE: / /

CHKD:

DATE: / /

DRAWN:

DATE: / /

SCALE 1 : 200

THIS DRAWING IS THE PROPERTY OF ESKOM

ESKOM

Distribution

LEACHES BAY SUBSTATION

132/11kV

LIGHTING LUX LEVELS

D-EC-1973

20

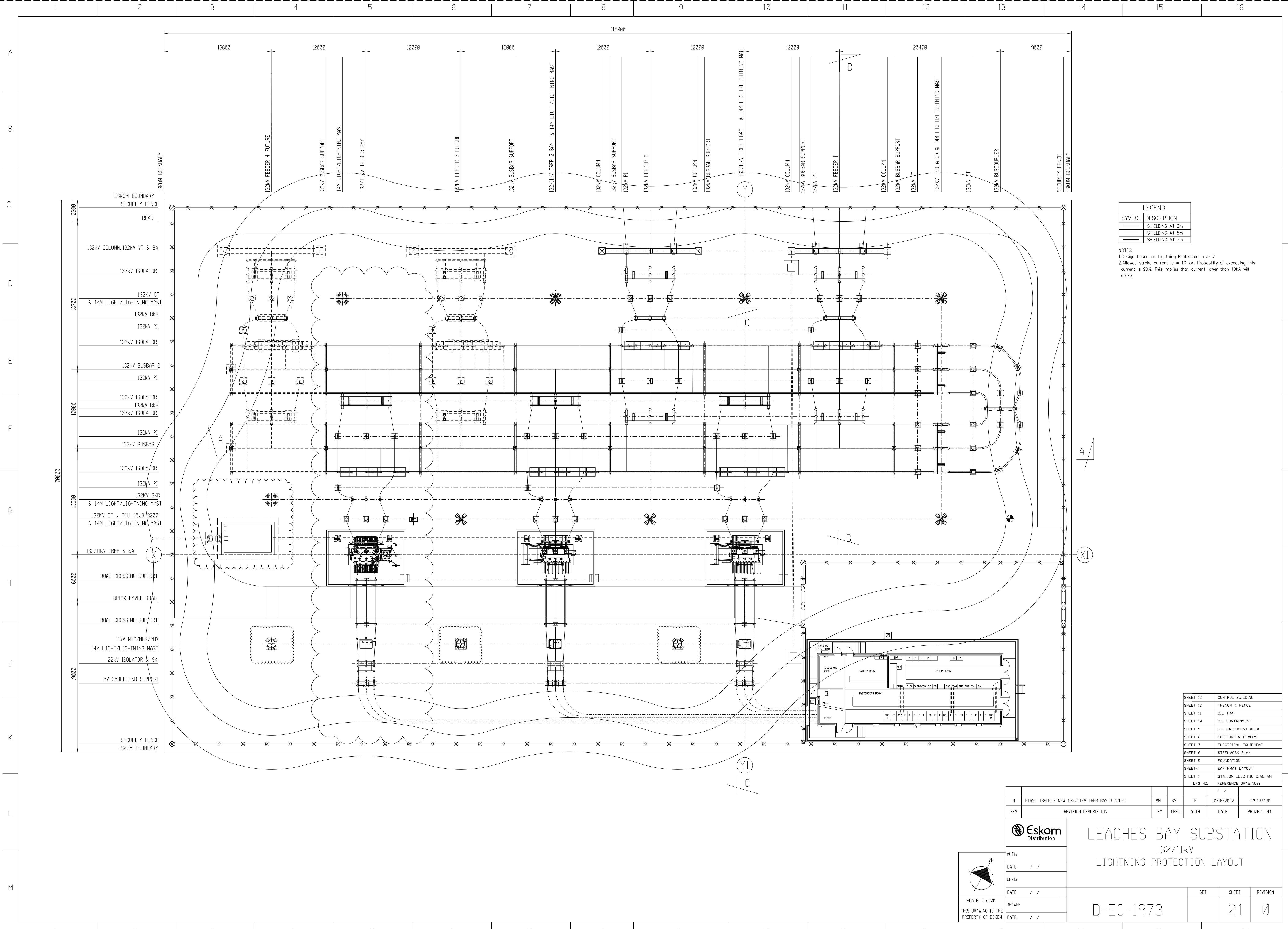
0

DRG NO.

REFERENCE DRAWINGS:

SET	SHEET	REVISION

SHEET 13	CONTROL BUILDING
SHEET 12	TRENCH & FENCE
SHEET 11	OIL TRAP
SHEET 10	OIL CONTAINMENT
SHEET 9	OIL CATCHMENT AREA
SHEET 8	SECTIONS & CLAMPS
SHEET 7	ELECTRICAL EQUIPMENT
SHEET 6	STEELWORK PLAN
SHEET 5	FOUNDATION
SHEET 4	EARTHMAT LAYOUT
SHEET 1	STATION ELECTRIC DIAGRAM



LEGEND	
SYMBOL	DESCRIPTION
	SHIELDING AT 3m
	SHIELDING AT 5m
	SHIELDING AT 7m

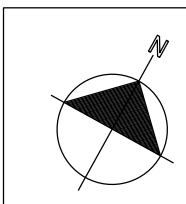
NOTES:
1.Design based on Lightning Protection Level 3
2.Allowed stroke current is = 10 kA, Probability of exceeding this current is 90%. This implies that current lower than 10kA will strike!

SHEET 13	CONTROL BUILDING
SHEET 12	TRENCH & FENCE
SHEET 11	OIL TRAP
SHEET 10	OIL CONTAINMENT
SHEET 9	OIL CATCHMENT AREA
SHEET 8	SECTIONS & CLAMPS
SHEET 7	ELECTRICAL EQUIPMENT
SHEET 6	STEELWORK PLAN
SHEET 5	FOUNDATION
SHEET 4	EARTHMAT LAYOUT
SHEET 1	STATION ELECTRIC DIAGRAM

REV	DESCRIPTION	BY	CHKD	DATE	PROJECT NO.
0	FIRST ISSUE / NEW 132/11kV TRFR BAY 3 ADDED	VM	BM	LP	18/10/2022 275437420



LEACHES BAY SUBSTATION
132/11kV
LIGHTNING PROTECTION LAYOUT



SCALE 1:200

THIS DRAWING IS THE PROPERTY OF ESKOM

AUTH:	DATE: / /
CHKD:	DATE: / /
DATE: / /	DRAWN:
DATE: / /	DATE: / /

SET	SHEET	REVISION
	21	0

D-EC-1973